Appendix A: Elk River Management Land Allocations

Management Land Allocations across the Watershed

NFP Land Allocations	Siskiyou Forest Plan Land Allocations	Allocation Number	Acres
Congressionally Reserved	Wilderness	MA-1	9,395
Congressionally Reserved	Wild River	MA-2	622
Administratively Withdrawn	Botanical	MA-4	1,313
Administratively Withdrawn	Back Country Recreation	MA-6	9
Administratively Withdrawn	Supplemental Resource	MA-7	2,121
Late-Successional Reserve	Designated Wildlife Habitat	MA-8	22,127
Administratively Withdrawn	Special Wildlife Site	MA-9	63
Congressionally Reserved	Scenic/Recreation River	MA-10	3,181
Riparian Reserve	Riparian	MA-11	1,533
Matrix	Retention Visual	MA-14	21
Matrix	General Forest	MA-14	4,800
Private	Private		2,956

^{*} A description of the land allocation objectives can be found in the NFP Record of Decision.

Appendix A: Elk River Land Management Allocations (cont.)

Management Land Allocations by Subwatershed

NFP Land	Siskiyou Forest									
Allocations	Plan Land	31H	31I	31G	31F	31E	31D	31C	31B	31A
	Allocation									
Congressionally										
Reserved	Wilderness				1,923			3,745	3,727	
Congressionally										
Reserved	Wild River	588	34					<1		
Administratively										
Withdrawn	Botanical	<1	1,312							
Administratively	Back Country									
Withdrawn	Recreation								6	
Administratively	Supplemental									
Withdrawn	Resource	1,216	<1		<1		<1		904	
Administratively	Special Wildlife									
Withdrawn	Site	<1	14	19		26			4	
Congressionally	Scenic/Recreation									
Reserved	River	<1	20	54	20	58	44	1,891	1,094	<1
Riparian Reserve	Riparian		34	772	3	653	71		<1	<1
Matrix	Retention Visual		18						3	<1
Matrix	General Forest	<1	265	2,024		2,343	78	87	1	1
Deixata	Debugata					404	4 470		207	000
Private	Private					191	1,478		397	890
Late-Successional	Designated									
Reserve	Wildlife Habitat	4,266	3,229	92	2,388	2,521	4,289	3,072	1,206	1,064

^{*} Acres summarized in this table include only those acres that are located within the Siskiyou National Forest boundary within the Elk River Watershed.

Appendix B: Elk River Seral Stage Classifications

Definitions of Seral Stages:

Non-Forest: Consists of areas such as pastures, rock outcrops, gravel bars, etc.

Pioneer: Consists of species capable of coming in open disturbed areas.

(1) Generally less than 50 years old.

Early Seral: Usually rapidly changing plant community.

- (1) Stage in forest development that includes seedling, sapling, and pole-sized trees.
- (2) Average age is 100 years old, with a range of 50 to 150 years old.

Mid Seral: Climax species dominates regeneration and understory layer and some are starting to make it into the overstory layer.

(1) Average age is 150 years old, with a range from 100 to 200 years.

Late Seral: Often slowly changing plant community.

(1) Greater than 200 years old.

Seral Stage Acres by Subwatershed

Subwatershed	Non-Forest	Pioneer	Early	Mid	Late
Lower	3864	1056	5292	687	523
Middle	3	872	2060	2194	2217
Upper	2	906	2094	3536	2257
Bald Mtn.	21	1075	1677	2362	1589
Panther	6	1037	943	2170	1649
Butler	35	642	609	1421	1626
Blackberry	8	400	336	1457	759
South Fork	40	560	1465	1788	1074
North Fork	3	369	1130	2935	1635

Percent of each Subwatershed within each Seral Stage

Subwatershed	Non-Forest	Pioneer	Early	Mid	Late
Lower	34%	9%	46%	6%	5%
Middle	0%	12%	28%	30%	30%
Upper	0%	10%	24%	40%	26%
Bald Mtn.	0%	16%	25%	35%	24%
Panther	0%	18%	16%	37%	29%
Butler	1%	15%	14%	33%	37%
Blackberry	0%	14%	11%	49%	26%
South Fork	1%	11%	30%	36%	22%
North Fork	0%	6%	19%	48%	27%

Appendix C: Exotic Plant Species Present In the Elk River Watershed

GRASSES, SEDGES, RUSHES

FORBS

Silver Hairgrass	AICA	Scarlet Pimpernel	ANAR3
Meadow Foxtail	ALPR	Chamomile	ANCO
European Beachgrass	AMAR	English Daisy	BEPE
Sweet Vernalgrass	ANOD	Oxeye Daisy	CHLE2
Slender Oat	AVBA	Canada Thistle	CICA
Quaking Grass	BRMI	Chicory	CIIN
Soft Brome	BRMO	Poison Hemlock	COMA2
Ripgut Brome	BRRI	Queen Anne's Lace	DACA4
Cheatgrass	BRTE	Foxglove	DIPU
Crested Dogtail	CYCR	Teasel	DISY
Dogtail Grass	CYEC	Crane's Bill	ERCI
Orchardgrass	DAGL	Coast Fireweed	ERPR
Crabgrass	DISA	Dovefoot Geranium	GEMO
Alta Tall Fescue	FEAR3	English Ivy	HEHE
Foxtail Fescue	FEME	Klamathweed	HYPE
Nitgrass	GAVE2	Cat's Ear	HYRA
Velvetgrass	HOLA	Everlasting Pea	LALA3
Toadrush	JUBU	Bird's Foot Trefoil	LOCO3
Annual Rye	LOMU	White Sweet Clover	MEAL
Perennial Rye	LOPE2	Yellow Sweet Clover	MEOF
Timothy	PHPR	Pennyroyal	MEPU
Annual Beardgrass	POMO	Parentucellia	PAVI
Kentucky Bluegrass	POPR	English Plantain	PLLA
		Common Plantain	PLMA
<u>SHRUBS</u>		Curled Pondweed	POCR
		Creeping Buttercup	RARE
French Broom	CYMO3	Sheep Sorrel	RUAC
Scotch Broom	CYSC	Curley Dock	RUCR
Fleeceflower	POCU	Burnet	SAMI2
Sweetbriar Rose	ROEG	Soapwort	SAOF2
Himalayan Blackberry	RUDI	Tansy	SEJA
Evergreen Blackberry	RULA2	Common Groundsel	SEVU
Gorse	ULEU	Sowthistle	SOAR
		Chickweed	STME
		Red Clover	TRPR
		Hop Clover	TRPR2
		Salsify	TRPR4
		White Clover	TRRE
		Moth Mullein	VEBL
		Common Mullein	VETH
	1		

Appendix D: Elk River Land Ownership

Elk River Land Ownership Codes:

Code	Land owner	Code	Land owner
AP	Al Pierce Co.	MP	Private Landowner (40-160 acres)
BI	Blanco, Inc.	MR	NB Marsh Ranch
BP	Private Landowner (160 acres+)	OR	State of Oregon
BT	Broken tree Corp.	PC	Paul Compton
CE	Crook Estates	PF	Port Orford Rural Fire District
CH	Coastal Harvesters, Inc.	RR	Reservation Ranch
DF	Daniel Fugate	SC	South Coast Lbr. Co.
EL	Elite Timber	SP	Private Landowner (>40 acres)
FW	F. Willis Smith	ST	Senecca Timber
JG	Jack Guerin	US	U.S. Government (BLM and USFS)
KR	Knapp Ranches, Inc.	WB	Westbrook
LR	Littrell Ranch, LLC	WR	Wahl Ranches, Co.
MM	Moore Mill		

Elk River Land Ownership Acres:

Landowner	Acres	Landowner	Acres
AP	1075	MP	2430
BI	27	MR	802
BP	725	OR	388
BT	79	PC	90
CE	171	PF	105
CH	538	RR	326
DF	150	SC	563
EL	32	SP	1216
FW	234	ST	170
JG	11	US	45996
KR	689	WB	198
LR	545	WR	1070
MM	758		

Appendix E: Wildlife Species of the Elk River Watershed

Common Name Scientific Name Status*/Locations**

Amphibians--

Family Ranidae

Red-legged frog Rana aurora Common; Bluebird Lake, Panther Lake, Mt. Wells

Foothill yellow-legged frog Rana boylei Common; Elk River, Panther Cr.

Family Hylidae

Pacific treefrog Hyla regilla Abundant; Panther Lake

Family Leiopelmatidae

Tailed frog Ascaphus truei Occasional; Elk River tributaries

Family Dicamptontidae

Pacific giant salamander Dicamptodon ensatus Common; Laird Lake, Bald Mt. Cr.

Oregon salamander (ensatina) Ensatina eschscholtzi Common; Laird Lake, Bald Mt.

Family Ambystomatidae pumper fill

Northwestern salamander Ambystoma gracile Common; Bluebird Lake, Bald

Mt. pumper fill

River

PlethodontidaePlethodon elongatusRare; Elk River

Western red-backed

salamander Plethodon vehiculum Occasional; Elk River Clouded salamander Aneides ferreus Common; Elk River

Family Salamandridae

Rough-skinned newt Taricha granulosa Abundant; many sites

Reptiles--

Family Testudinidae

Northwestern pond turtle Clemmys marmorata Rare; Bluebird Lake

marmorata

Family Iguanidae

Western fence lizard Sceloporus occidentalis Abundant; landings, clearcuts

Sagebrush lizard Sceloporus graciosus Status unknown

Family Scincidae

Western skink Eumeces skiltonianus Status unknown

Family Anguidae

Northern alligator lizard Elgaria coerulea Common; landings Southern alligator lizard Elgaria multicarinata Status unknown

Family Boidae

Rubber boa Charina bottae Occasional; Elk River, higher

elevations

Family Colubridae

Ringneck snake Diadophis punctatus Status unknown Sharp-tailed snake Contia tenuis Status unknown

Gopher snake Pituophismelanoleucus Status unknown
Western yellow-bellied racer Coluber constrictor Status unknown
Northwestern garter snake Thamnophis ordinoides Common garter snake Thamnophis sirtalis Common; roads, upland areas
Western terrestrial garter snake Thamnophis elegans Status unknown

Aquatic garter snake Thamnophis elegans Status unknown Aquatic garter snake Thamnophis couchi Status unknown Mountain kingsnake Lampropeltis zonata Hypothetical Lampropeltis getulus

Birds--

Loons--Family Gaviidae

Common Loon Gavia immer Rare

Grebes--Family Podicipedidae

Western Grebe
Aechmophorus occidentalis
Rare
Podiceps auritus
Rare

Cormorants--Family Phalacrocoracidae

Double-crested Cormorant Phalacrocorax auritus Rare

Herons--Family Ardeidae

Great Blue Heron Ardea herodias Common
Green-backed Heron Butorides striatus Uncommon
Great Egret Casmerodius albus Uncommon

Swans, Geese, Ducks--Family Anatidae

Tundra SwanCygnus columbianusRareCanada GooseBranta canadensisRareMallardAnas platyrhynchosCommonGreen-winged TealAnas creccaUncommonCinnamon TealAnas cyanopteraRare

Wood DuckAix sponsaUncommonRing-necked DuckAythya collarisUncommonBuffleheadBucephala albeolaRareCommon MerganserMergus merganserCommonHooded MerganserLophodytes cucullatusUncommon

Coots--Family Rallidae

American Coot Fulica americana Uncommon

Plovers--Family Charadriidae

Charadrius alexandrinus Snowy Plover Rare Killdeer Charadrius vociferus Uncommon **Greater Yellowlegs** Tringa melanoleuca Rare Spotted sandpiper Actitis macularia Common Red-necked Phalarope Phalaropus lobatus Rare Red Phalarope Phalaropus fulicaria Accidental Common Snipe Gallinago gallinago Uncommon

Gulls--Family Laridae

California Gull Larus californicus Uncommon Western Gull Larus occidentalis Uncommon

Murrelets--Family Alcidae

Marbled Murrelet Brachyramphus marmoratus Uncommon

Vulture--Family Cathartidae

Turkey Vulture Cathartes aura Common

Hawks, Eagles--Family Accipitridae

Golden Eagle Aquila chrysaetos Rare

Bald EagleHaliaeetus leucocephalusRareBlack-shouldered KiteElanus caeruleusRareNorthern HarrierCircus cyaneusRare

Sharp-shinned Hawk Accipiter striatus Uncommon Cooper's Hawk Accipiter cooperii Uncommon

Northern Goshawk Accipiter gentilis Rare Red-tailed Hawk Buteo jamaicensis Common

Osprey
Pandion haliaetus
Uncommon
American Kestrel
Falco sparverius
Uncommon
Merlin
Falco columbarius
Rare
Peregrine Falcon
Falco peregrinus
Rare

Grouse, Quail--Family Phasianidae

Ruffed Grouse Bonasa umbellus Common
Blue Grouse Dendragapus obscurus Uncommon
California Quail Callipepla californica Common
Mountain Quail Oreortyx pictus Common

Wild Turkey Meleagris gallopavo Uncommon-Exotic

Pigeons, Doves--Family Columbidae

Band-tailed Pigeon Columba fasciata Uncommon

Rock Dove Columba livia Uncommon-Exotic

Mourning Dove Zenaida macroura Uncommon

Owls--Family Tytolidae

Common Barn-Owl Tyto alba Uncommon

Owls--Family Strigidae

Great Horned Owl Bubo virginianus Common
Barred Owl Strix varia Rare

Northern Spotted Owl Strix occidentalis caurina Uncommon Western Screech Owl Otus kennicottii Uncommon Northern Pygmy-Owl Glaucidium gnoma Uncommon Northern Saw-whet Owl Aegolius acadicus Uncommon

Nightjars--Family Caprimulgidae

Common Nighthawk Chordeiles minor Rare

Swifts--Family Apodidae

Vaux's Swift Chaetura vauxi Common

Hummingbird--Family Trochilidae

Anna's Hummingbird Calypte anna Rare

Calliope HummingbirdStellula calliopeUncommonRufous HummingbirdSelasphorus rufusCommonAllen's HummingbirdSelasphorus sasinUncommon

Kingfisher--Family Alcedinidae

Belted Kingfisher Ceryle alcyon Common

Woodpeckers--Family Picidae

Northern Flicker Common Colaptes auratus Acorn Woodpecker Melanerpes formicivorus Rare Sphyrapicus ruber Red-breasted Sapsucker Uncommon Downy Woodpecker Picoides pubescens Uncommon Hairy Woodpecker Picoides villosus Uncommon Pileated Woodpecker Dryocopus pileatus Uncommon

Tyrant Flycatchers--Family Tyrannidae

Western Kingbird Tyrannus verticalis Uncommon Olive-sided Flycatcher Contopus borealis Common

Western Wood-Pewee Contopus sordidulus Common Black Phoebe Sayornis nigricans Rare **Empidonax Flycatchers--Family Tyrannidae Dusky Flycatcher** Empidonax oberholseri Uncommon Hammond's Flycatcher Empidonax hammondii Uncommon Willow Flycatcher Empidonax trailii Uncommon Pacific Slope Flycatcher Empidonax difficilis Common **Swallows--Family Hirundinidae** Tree Swallow Tachycineta bicolor Common Common Violet-green Swallow Tachycineta thalassina Purple Martin Progne subis Rare Northern Rough-winged Stelaidoptervx serripennis Uncommon Swallow Cliff Swallow Hirundo pyrrhonota Common Barn Swallow Hirundo rustica Common Jays, Crow, Raven--Family Corvidae Aphelocoma coerulescens Uncommon Scrub Jay Steller's Jay Cvanocitta stelleri Common **Gray Jay** Perisoreus canadensis Rare American Crow Corvus brachyrhynchos Uncommon Common Raven Corvus corax Common Wrentit--Family Muscicapidae Wrentit Chamaea fasciata Common **Chickadees--Family Paridae** Black-capped Chickadee Parus atricapillus Common Mountain Chickadee Parus gambeli Rare Chestnut-backed Chickadee Parus rufescens Common **Bushtit--Family Aegithalidae Bushtit** Psaltriparus minimus Common **Creepers--Family Certhiidae Brown Creeper** Certhia americana Uncommon **Nuthatches--Family Sittidae** White-breasted Nuthatch Sitta carolinensis Rare Red-breasted Nuthatch Sitta canadensis Common Wrens--Family Troglodytidae House Wren Troglodytes aedon Uncommon Troglodytes troglodytes Winter Wren Common Bewick's Wren Thryomanes bewickii Uncommon Marsh Wren Cistothorus palustris Uncommon Rock Wren Salpinctes obsoletus Rare **Thrushes--Family Muscicapidae** Golden-crowned Kinglet Regulus satrapa Common Ruby-crowned Kinglet Regulus calendulga Common Western Bluebird Sialia mexicana Uncommon Townsend's Solitaire Myadestes townsendi Uncommon Swainson's Thrush Catharus ustulatus Common Hermit Thrush Catharus guttatus Common Varied Thrush Ixoreus naevius Common American Robin Turdus migratorius Common **Shrike--Family Laniidae** Loggerhead Shrike Lanius Iudovicianus Rare **Pipit--Family Motacillidae**

Water Pipit Anthus spinoletta Rare

Dipper--Family Cinclidae

American Dipper Cinclus mexicanus Common

Waxwing--Family Bombycillidae

Cedar Waxwing Bombycilla cedrorum Common

Starling--Family Sturnidae

European Starling Uncommon-Exotic Sturnus vulgaris

Vireos--Family Vireonidae

Hutton's Vireo Vireo huttoni Uncommon Solitary Vireo Vireo solitarius Uncommon Warbling Vireo Vireo gilvus Common

Warblers, Sparrows--Family Emberizidae

Orange-crowned Warbler Vermivora celata Common Nashville Warbler Vermivora ruficapilla Uncommon Yellow-rumped Warbler Dendroica coronata Common Common Black-throated Gray Warbler Dendroica nigrescens Townsend's Warbler Dendroica townsendi Uncommon Hermit Warbler Dendroica occidentalis Common Yellow Warbler Dendroica petechia Uncommon MacGillivray's Warbler Oporornis tolmiei Common Wilson's Warbler Wilsonia pusilla Common Common Yellowthroat Geothlypis trichas Uncommon Yellow-breasted Chat Icteria virens Rare Black-headed Grosbeak Pheucticus melanocephalus Common Lazuli Bunting Passerina amoena Uncommon Rufous-sided Towhee Pipilo erythrophthalmus Common Savannah Sparrow Passerculus sandwichensis Uncommon Song Sparrow Melospiza melodia Common **Chipping Sparrow** Spizella passerina Common Dark-eyed Junco Junco hyemalis Common White-throated Sparrow Zonotrichia albicollis Rare Common White-crowned Sparrow Zonotrichia leucophrys Zonotrichia atricapilla Golden-crowned Sparrow Common Fox Sparrow Passerella iliaca Common Lincoln's Sparrow Melospiza lincolnii Uncommon Western Meadowlark Sturnella neglecta Uncommon Red-winged Blackbird Agelaius phoeniceus Uncommon Brewer's Blackbird Euphagus cyanocephalus Uncommon

Weaver--Family Passeridae **English House Sparrow**

Brown-headed Cowbird

Northern Oriole

Western Tanager

Common-Exotic Passer domesticus

Molothrus ater

Icterus galbula

Piranga ludoviciana

Uncommon

Common

Rare

Finches--Family Fringillidae

Pine Siskin Carduelis pinus Common American Goldfinch Carduelis tristis Common Lesser Goldfinch Carduelis psaltria Rare Loxia curvirostra Red Crossbill Uncommon Purple Finch Carpodacus purpureus Uncommon Cassin's Finch Carpodacus cassinii Rare House Finch Carpodacus mexicanus Uncommon

Evening Grosbeak Coccothraustes vespertinus Common

Mammals--

Family Didelphidae

Opossum Didelphis virginiana Occasional

Family Soricidae

Vagrant shrewSorex vagransStatus UnknownPacific shrewSorex pacificusStatus Unknown

Trowbridge shrew Sorex trowbridgii Common

Dusky shrew Sorex obscurus Status Unknown

Family Talpidae

Shrew-mole Neurotrichus gibbsii Common Townsend mole Scapanus townsendii Common Coast mole Scapanus orarius Common

Family Vespertilionidae

Little brown myotis Myotis lucifugus Status Unknown

Yuma myotisMyotis yumanensisStatus UnknownLong-eared myotisMyotis evotisStatus UnknownLong-legged myotisMyotis volansStatus Unknown

California myotis Myotis californicus Common

Fringed myotis Myotis thysanodes Status Unknown Silver-haired bat Lasionycteris noctivagans Common

Big brown bat Eptesicus fuscus Status Unknown

Hoary bat Lasiurus cinereus Status Unknown
Pacific western big-eared bat Plecotus townsendii Status Unknown
Pallid bat Antrozous pallidus Status Unknown

Family Ursidae

Black bear Ursus americanus Common

Family Procyonidae

Raccoon Procyon lotor Common

Family Bassariscidae

Ringtail Bassariscus astutus Occasional

Family Mustelidae

American marten Occasional Martes americana Pacific fisher Martes pennanti Rare Shorttail weasel Mustela erminea Common Longtail weasel Mustela frenata Occasional Mink Mustela vison Common River otter Lutra canadensis Common Spotted skunk Spilogale putorius Abundant Striped skunk Mephitis mephitis Common

Family Canidae

Coyote Canis latrans Common Gray fox Urocyon cinereoargenteus Rare

Family Felidae

Mountain lion Felis concolor Occasional Bobcat Lynx rufus Common

Family Aplodontidae

Mountain beaver Aplodontia rufa Common

Family Sciuridae

California ground squirrel Citellus beecheyi Common

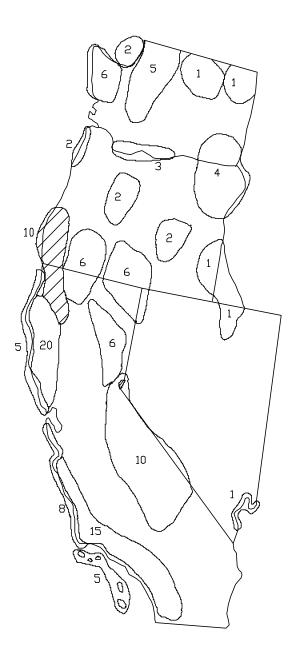
Townsend chipmunk Eutamias townsendii Abundant Western gray squirrel Common Sciurus griseus Douglas squirrel (chickaree) Tamiasciurus douglasi Abundant Northern flying squirrel Glaucomys sabrinus Common **Family Castoridae** Beaver Castor canadensis Common **Family Cricetidae** Peromyscus maniculatus Abundant Deer mouse Dusky-footed woodrat Neotoma fuscipes Common Bushy-tailed woodrat Neotoma cinerea Common White-footed vole Phenacomys albipes Status Unknown Red tree vole Phenacomys longicaudus Status Unknown Western red-backed vole Clethrionomys occidentalis Status Unknown California vole Microtus californicus Status Unknown Townsend vole Microtus townsendi Status Unknown Longtail vole Microtus longicaudus Status Unknown Oregon vole Microtus oregoni Status Unknown Ondatra zibethica Muskrat Occasional **Family Muridae** Status Unknown-Exotic Norway rat Rattus norvegicus Black rat Rattus rattus Status Unknown-Exotic Mus musculus House mouse Status Unknown-Exotic Family Zapodidae Pacific jumping mouse Occasional Zapus trinotatus **Family Erethizontidae** Porcupine Erethizon dorsatum Common **Family Leporidae** Brush rabbit Sylvilagus bachmani Common **Family Cervidae** Roosevelt elk Cervus canadensis Occasional Black-tailed deer Odocoileus hemionus Common

Appendix F: Peregrine Falcon Recovery Plan Objectives

The proposals that follow are believed to be necessary to restore the Pacific Coast population of the American peregrine falcon to a secure, self-sustaining status. A "self-sustaining" population is one whose natural productivity is equal to or greater than its mortality, without human management. Based on available data the minimum number of known self-sustaining wild pairs required for consideration of delisting the peregrine are: California, 120 pairs: Oregon, 30 pairs: Washington, 30 pairs; and Nevada, 5 pairs, This totals 185 active pairs for the Pacific States region. The minimum productivity for this number of pairs should be an average of 1.5 fledged young per active territory per year over at least a five year period. This productivity level is a Recovery Team best estimate based on review of other population reproductive rates (Hickey and Anderson 1969, Nelson 1977, Newton 1979a, Rattcliffe 1980) and estimates of rates required to maintain a stable population (Enderson 1969b, Young 1969). A variety of recovery indicators will be determined (e.g. DDE residue levels, coastal population productivity). Distribution within the Pacific States must be as widespread as possible within the historical range. The following is a map showing peregrine breeding management units and minimum number of active pairs as a recovery goal for each unit. These units represent geographic areas either known to be occupied or that were historically occupied and are still suitable for peregrines. Nest sites within each of these zones are physiographically and ecologically similar, and hence provide convenient management units. These minimum active nest site numbers do not equal the recovery goal. At such time that all minimum numbers are reached (totaling 122), then the Pacific Coast population may be considered for reclassification to Threatened status. Once all minimum numbers are met, a fledging success average of 1.5 per active pair is achieved, and the total number of known pairs reaches 185 for the Pacific States, then the species may be considered for total delisting. The minimum numbers of pairs per management unit, the total known numbers of pairs, and the appropriate average fledging success must be met prior to delisting. These numbers may be revised up or down as the species recovers, and its population ecology is better understood.

Basic needs to meet the objective of the Recovery Plan are to maintain sufficient habitat for a breeding population of 185 pairs, increase and maintain the productivity of individual pairs, decrease mortality at all age levels as much as possible, preserve migratory and winter habitat, and artificially supplement the number of birds entering the population until the breeding population of 185 pairs is achieved. In addition, an ongoing monitoring program is desirable to identify changes in the population and to measure the success of various protection and management programs. Peregrine young introduced into the wild should be the progeny of Pacific <u>anatum</u> stock to the greatest extent possible. Peregrines of uncertain or nonresident lineage should be avoided in this reintroduction program. Also, hacking efforts of <u>anatum</u> peregrines should be made in natural nesting habitat unless such habitats are shown to be unavailable or unsuitable. Natural nesting habitat is any historically known type of habitat (e.g. cliffs, islands, buildings, cavities of large trees). Urban release sites can add to the recovery of the wild populations. Survival of young from urban hack sites is greater than at wild hack sites, and the urban-released young probably recruit into the wild as well as establish in urban environments (Cade, T.J. and P.R. Dague 1981). Our goal, however, is to establish wild nest sites to the greatest extent possible.

Pacific Peregrine Falcon Management Units



Numbers represent the minimum number of pairs required in each unit before reclassification to Threatened status (Pacific Coast Recovery Plan for the American Peregrine Falcon, 1982).

Appendix G: Pacific Bald Eagle Recovery Plan Site-Specific Tasks for Zone 23. California/Oregon Coast

The following are listed as the "most urgent" site specific tasks for bald eagle recovery in Zone 23: (pg. 133, Pacific Bald Eagle Recovery Plan)

1.32 MAINTAIN AND IMPROVE FORESTED HABITAT IN BOTH THE BREEDING AND WINTERING RANGE

Timber stands should be managed to promote habitat characteristics required by eagles for long-term nesting and roosting. In most cases, this requires management for old-growth stands. Silvicultural techniques, such as thinning or selective harvest, can help to create proper tree species composition and stand structure. The important element of any silvicultural plan should be to maintain an old growth overstory in the vicinity of nest sites and communal roosts. Development and maintenance of potential eagle habitat is as important as protection and maintenance of habitat currently used by eagles.

1.3211-- PROHIBIT LOGGING OF KNOWN NEST TREES, PERCH TREES, AND WINTER ROOST TREES

Trees used by eagles should be clearly identified and protected from logging. In addition, trees that provide wind breaks, that visually shield eagles from disturbances, or that are needed for long-term viability of eagle use areas must be maintained. Trees with unoccupied nests in suitable habitat and trees which formerly had nests should also be protected because these sites are sometimes used after several years of abandonment and will be important in providing habitat for expanding populations.

1.3215-- PRESERVE SNAGS IN EAGLE USE AREAS

All snags that are potential eagle perches within 500 m (1650 ft) of nests or roosts should be preserved. In addition, all snags utilized for roosting or foraging within nesting territories or communal roosts should be protected.

1.331-- ESTABLISH BUFFER ZONES AROUND NEST SITES

Buffer zones should be established for individual nest territories based on the location of nest trees, perch trees, and flight paths, as well as stand characteristics, known individual tolerances, and weather patterns.

Until site specific plans are available or until guidelines can be developed by local groups or agencies, guidelines prepared by the U.S. Fish and Wildlife Service Region I should serve as minimum protective measures.

1.332 EXCLUDE LOGGING, CONSTRUCTION, HABITAT IMPROVEMENT, AND OTHER ACTIVITIES DURING CRITICAL PERIODS OF EAGLE USE

Picnicking, camping, blasting, firearm use, timber harvest, and low level aircraft operations should not be allowed within 400 m of nests and roosts during periods of eagle use. These activities should also be regulated up to 800 m from nests and roosts where eagles have line-of-sight vision. Critical nesting periods vary throughout the recovery area but generally fall between 1 January and 31 August. Key wintering areas need protection from disturbance from approximately 15 November to 15 March.

1.333 PROHIBIT BUILDING CONSTRUCTION NEAR KEY BALD EAGLE NESTING AND WINTERING HABITATS.

Permanent structures that are occupied during periods of eagle use should not be constructed near nesting or winter use areas. Buildings should be no closer than 400 m from the shorelines of feeding waters. Wooded summer campgrounds and small farming operations are probably compatible with winter eagle use, but campgrounds in most wintering areas should be closed from November to March.

1.334 PROHIBIT VEHICLE TRAFFIC AT SENSITIVE KEY AREAS DURING PERIODS OF EAGLE USE

Snowmobile, boat, and automobile traffic can disturb eagles in some areas. Roads should be closed to protect nesting areas, when appropriate, and snowmobiles should be prohibited from traveling near nesting and wintering habitat during periods of eagle use.

Land use plans should guide human activity away from important feeding perches and prevent human disturbance in nesting and roosting areas.

Buoys and booms can be used to channel boat traffic away from sensitive eagle use areas. At Shasta Lake, California, this approach, in combination with shoreline signing and recreational maps, has reduced conflicts between eagles and recreationists (Detric pers. comm.).

The impacts of automobile traffic can be lessened if people remain in their vehicles. In addition, eagles may grow accustomed to the presence of humans at certain locations. Appropriate signs at these viewing points could educate the viewing public about bald eagle ecology and management.

3.2 PROVIDE FOR ADEQUATE STATE AND FEDERAL EAGLE PROTECTION EFFORTS.

Eagles are now protected by a variety of state and federal laws including the Migratory Bird Treaty Act of 1918, the Lacey Act, and 1940 Bald and Golden Eagle Protection Act, and the Endangered Species Act of 1973, as amended. Law enforcement agents and agency lawyers must have latitude to prosecute specific cases under the most appropriate law. The Division of Law Enforcement, U.S. Fish and Wildlife Service, and individual state enforcement agencies should work in close cooperation while investigating and prosecuting illegal activity involving bald eagles.

3.3 PROVIDE SEASONAL SURVEILLANCE AT SELECTED HABITATS WHERE EAGLES ARE VULNERABLE TO HUMAN DISTURBANCE OR HARASSMENT

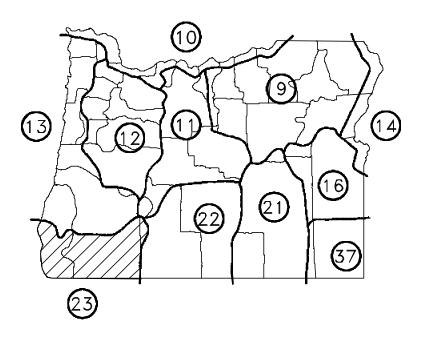
At some nest sites, roosting areas and other use areas, bald eagles may be vulnerable to detrimental disturbances by people walking, in land vehicles, or in boats. Assigning guards to nest or roost areas at critical times of the year may be necessary to avert disturbances that could result in birds being killed or abandoning a nest or roost site. Responsibilities of site attendants might include: identifying sources of disturbance, providing local public relations, discouraging people from entering especially sensitive areas, summoning law enforcement aid in emergencies, and collecting biological data.

4.11 REDUCE BALD EAGLE MORTALITY ASSOCIATED WITH SHOOTING AND TRAPPING Shooting continues to be the most common cause of bald eagle mortality. Uncontrolled shooting could easily lead to the decimation of nesting and/or wintering populations in local areas. Aggressive law enforcement and public information and education programs (see Sec. 3.2) will be the most effective way to reduce shooting and trapping mortality. It also may be necessary to control or regulate public access in areas where shooting or trapping problems have been identified. Roads should be closed in some areas during critical periods of eagle use. Nest wardens may be required at nests near human population or recreation centers (see 3.3). Habitat management techniques (see 1.32) should also be used in these cases to keep eagles away from hazardous situations.

4.121 RESTRICT USE OF POISONS DETRIMENTAL TO EAGLES IN PREDATOR AND RODENT CONTROL PROGRAMS WITHIN IMPORTANT BALD EAGLE NESTING AND WINTERING HABITAT

Rodent and jack rabbit control with strychnine has been identified as a recurring cause of bald eagle mortality, and compound 1080 has been responsible for at least one bald eagle death in the West (National Wildlife Health Laboratory 1985). Extreme caution should be taken whenever control programs are initiated in traditional eagle use areas. If it is determined that bald eagles feed in the area, the control program should be disallowed or structured in such a way as to have no effect on eagles. Safer, alternative chemicals should be considered. If existing regulations are inadequate to protect the bald eagle, new legislation or regulations should be encouraged.

Appendix H: Bald Eagle Recovery Zone Boundaries for Oregon (Working Implementation Plan for Bald Eagle Recovery in Oregon and Washington, 1990)



- 9 = Blue Mountains
- 10 = Columbia River
- 11 = High Cascades
- 12 = Willamette Basin
- 13 = Oregon Coast
- 14 = Snake River Canyon
- 16 = Boise Valley
- 21 = Harney Basin/Warner Mountains
- 22 = Klamath Basin
- 23 = California/Oregon Coast
- 37 = Great Basin

Appendix I: Habitat Enhancement Projects

Wildlife Tree Topping

- 1985 -- Lost Elk #5-5 trees
- 1987 -- Black Lairdberry #1-4 trees
 - --Black Lairdberry #3-7 trees
 - --Black Lairdberry #4- 4 trees
 - --Panther Return #4-4 trees
- 1988 -- Mt. Wells #1-11 trees
 - --Mt. Wells #2-3 trees
 - --Panther Return #3-6 trees
 - --Panther Return #4-3 trees
 - --Panther Return #5-8 trees
- 1990 -- Mt. Wells #3-5 trees
 - --Mt. Wells #4-7 trees
 - --Iron Sucker #4-2 trees
 - --Bald Mt. Meadows-28 trees
- 1995 -- Father Oak #14-4 trees
 - --Father Oak #17-8 trees

TOTAL: 111 TREES TOPPED

Aerial Forage Seeding

- 1979 -- Oak Ridge #1-9 acres
 - --Oak Ridge #2-17 acres
 - --Oak Ridge #3-41 acres
 - --Father Sky #1-10 acres
 - --Mt. Wells #1-60 acres
- 1982 -- Lost Elk U-2-32 acres
- 1987 -- Mt. Wells ?-15 acres
- 1988 -- Panther Return #5-46 acres
 - --Blacklairdberry #3-30 acres
 - --Black Lairdberry #4-14 acres
- 1990 -- Mt. Wells #4-20 acres

TOTAL: 294 ACRES TREATED

Appendix J: Data Used to Support Analysis

Landslide Inventory: McHugh (1986) identified and measured landslides and other slope features from seven sets of historical aerial photographs covering 1943 through 1979, on National Forest lands. McHugh updated these data for 1979 through 1986 using the same inventory methods (McHugh, 1988, pers. comm.). Debris slides, debris avalanches, failing toes of slumps and earthflows, and debris flows that were active during this period were inventoried. Information collected on the 223 slides within Elk River included area, slope, aspect, elevation, rock type, percentage delivery to streams, and photo-bracketed date of failure. The relation of the slides to harvest units or road construction was noted, and the date of such disturbance was recorded. Area, depth and percent delivery to stream channels were measured in the field for 25 percent of the landslides. A relation between photo-interpreted area and field-measured volume was used to estimate volumes for slides that were not field-verified.

Landslide Sediment Delivery Projections: Estimates of future landslide sediment delivery are based on past numbers, volumes, and timing of slides following road construction and timber harvest.

Although there is evidence that improved land use practices result in decreased numbers of landslides, these estimates are based on old practices, particularly for road construction. For newer roads constructed between 1979 and 1986, no roadrelated landslides larger than the minimum detectable size (100 sq meters) have been observed. However, this sample includes only 0.7 miles on high and 3.8 miles on moderate watershed sensitivity. The natural landslide rate increased slightly for 1979-86 over that for 1973-79, which may be attributed to the 1982 storm (Figure 24). In comparison, Figure 24 shows a considerable decrease in the rate of harvest-related landslides over this period, partially due to a decrease in acres harvested, improved land management practices, and different timing of storm events. The rate of road-related landslides increased considerably, but all were from roads constructed prior to 1979.

The mean volume of road-related landslides during 1955-1969 was 2553 cubic yards, and during 1970-1986 decreased by 44%. During this latter time period, new roads were located further away from streams and the practice of sidecasting sediment on steep slopes was discontinued. The average percentage of sediment delivered from road-related slides is lower than from natural or harvest-related slides which are closer to streams (McHugh, 1987). An unsubstantiated observation of road-related slides suggest that they occur with a higher density in harvested areas. Roads on high and moderate watershed sensitivity land delivered 13 times as much sediment per acre as harvest on high watershed sensitivity land (1952-1986). The mean volume of harvest-related landslides during 1955-1969 was 2510 cubic yards, and during 1970-1986 decreased by 42%.

The number of years between road construction or timber harvest and each landslide was used to construct a "susceptibility curve" to estimate landslide timing. The methods are described in a draft report in the process records entitled "Estimating volumes of landslide sediment production and delivery from forested watersheds:" by Luce, C.H. and Ricks, C.L.

Road Drainage Erosion: Road drainage erosion was sampled on 4.25 miles (74 drainage outlets) for three rock types in 1992. Most of the eroded sediment was redeposited on the slope before entering a drainage. The average distance between the drainage outlet and deposit was 20 feet. Sediment entered streams from erosion only where the drainage outlet was in or within 20 feet of a natural drainage. The relatively high rock fragment content in the soils that were sampled allow rapid infiltration and dissipation of energy. Finer-textured soils on Galice mudstones or altered diorite are expected to develop deeper, longer gullies. Three landslides were also located in association with the drainage outlets.

Channel Network Expansion: Based on inventory of 74 road drainage outlets, the mean ditch distance to the nearest drainage outlet(s) was 346 feet. The number of drainage crossings was counted from overlaying the road and stream networks. Because the smallest streams in the network are interpreted from maps and aerial photos rather than field mapping, these values are approximate. The miles in this road network were obtained from an older Tranportation Information System (TIS) database and additional non-system road miles, and differ from later estimates cited elsewhere in this document.

drainage crossings x mean ditch distance to outlet = Road drainage distance

Percent channel network expansion = (Road drainage distance) divided by (Road drainage + channel distance)

	Elk River above hatchery	Milbury Creek
Area (sq mi)	73.4	0.81
System/Nonsystem Roads (mi)	169	4.1
Channel Distance (mi)	440	4.0
# drainage crossings	314	19

Appendix K: Methods Used to Determine Optimum Female Escapement Goals

Chinook

I utilized an ODFW data set from 1985 to 1992. I numerically plotted the amount of female spawners versus the amount of smolts produced the following year, I was able to see an increase in smolt production correlated with female escapement until a peak was reached. After the peak, increases of returning females did not increase juvenile abundance (they actually decreased). From this data, I determined the optimum number of female spawners to be 2,800 to 3,100 fish. (See graph following page)

Coho, Steelhead and Cutthroat

I calculated the amount of available habitat using the Habitat Quality Index (HQI) in ODFW's Steelhead Management Plan 1986-1992 to determine optimum numbers of female escapement. Where a borderline call of adequate and available habitat was questionable, I tended to overrate the habitat.

Species	Avail. Habitat	HQI	Females/Mile	Optimum
Coho salmon	9 miles	3	14.8	133 females
Winter steelhead	30 miles	5	23.0	690 females
Cutthroat trout	45 miles	5	23.0	1035 females

Insert Max's Graph Female Chinook vs. Juvenile Production

Appendix L: Elk River Cultural Resource Summary

DESCRIPTION

The Elk River flows westerly into the Pacific Ocean just north of Port Orford on the southern Oregon coast. The River is approximately 32 miles long and drains a watershed of about 60 thousand acres between the Rogue River and the Coquille River drainages. The lower 12 miles are a broad flat grassy valley on private land outside the Siskiyou National Forest boundary. The upper 20 miles and 49,200 acres are within the Siskiyou National Forest. Most of this land is steep with narrow canyons. Vegetative cover is mostly Douglas-fir trees, both old growth and second growth. The understory is abundant heavy brush. The area is covered by the Port Orford, and Agness quadrangle maps of the U.S. Geological Survey.

Before the coming of the white man this area was inhabited by the Quatomah band of the Tututni group of Athabascan Indians. There were settlements in the Floras Lake, Sixes River, Eckley (Dement Ranch), Elk River, and Port Orford areas. The Sixes River was used more heavily than the Elk; and the lower 12 miles of the Elk River more heavily than the upper 20 miles.

Three main trails ran east-west through what is now the Siskiyou National Forest:

- 1) Up the Sixes River and over the prairies to Baker & Rowland Creeks, or down Salmon Creek to the Powers area;
- 2) Up the Elk River to the only easy ridge north, onto the Sixes/Elk divide, then east over Barklow Mtn. onto Johnson Mtn. and thence to the Powers area;
- 3) From Port Orford over Bald Mountain & Rocky Peak, then along the Elk/Rogue divide to Iron Mountain, then to either Illahe or Agness.

Two trails ran north-south connecting these trail systems:

- 1) A trail 4 miles west of the Forest boundary joined the lower Elk River with the Sixes River;
- 2) A trail north from Iron Mountain along the ridgeline over Barklow Mountain joined the 3 main trails.

White settlers & miners started moving into the area in the early 1850's. Almost all the Indians were removed north to reservations at Siletz and Grand Rhonde, after the war of 1855-56.

At least two mines operated in the middle Elk River area. The Elkhorn and Sunshine Mines are shown on the 1934 General Land Office survey map. The miners used the early Indian trails and built some of their own.

In 1909 when the Siskiyou National Forest was organized into districts, Bill Milbury, the first ranger, established a Ranger Station at a place that became known as McGribble. The Forest Service maintained some of the old trails, did some selective logging in the early years, and started building some roads. After World War II, the Forest Service started intensively managing timber and building logging roads.

(For more historical details, see "History Elk River Area").

POTENTIAL

The Siskiyou National Forest, Cultural Resource Sample Survey Design predicts the likelihood of finding cultural resources.

Three categories of probability are identified: high, medium, and low.

The eight factors used to predict probability are: slope, aspect, elevation, soil, fisheries, stream classification, minerals, and vegetation.

The high potential areas are terraces along the Elk River and the lower ends of major tributaries. Medium areas are interspersed along non terrace areas of Elk River, corridors along major tributaries, gently sloping ground, broad ridges, and open or semi-open high peaks. All remaining area is low probability.

Approximate distribution of probability categories:

High probability 5% Medium probability 20% Low probability 75%

Actual finding of sites, both historic and prehistoric, has corresponded well to the predictive model.

INVENTORY OF EXISTING SITES

In 1978 the Forest Service contracted with Steven D. Beckham, Archaeologist and Historian, to do a cultural resource overview of the Siskiyou National Forest. He documented research about the original American Indian inhabitants and the later settlement by whites.

Since the time of the overview and the development of a cultural resource program on the Forest, 13 cultural resource surveys for individual timber sales within the Elk River basin have been done. An additional 6 surveys border the Elk River area. These surveys located and documented 27 cultural resource sites, one of these being prehistoric.

Approximately half the Elk River watershed has been surveyed for cultural resources. An estimated one third of the remaining unsurveyed area is in the Grassy Knob Wilderness.

List of sites by category:

- 1 Prehistoric waste chert & jasper flakes on a bench along the middle Elk River area.
- 5 USFS fire lookout sites (none now exist)
- 7 USFS trail camps (structures destroyed or in disrepair)
- 1 USFS Ranger Station site (McGribble no structures remain)
- 5 Cabin sites from early settlers & miners (structures destroyed)
- 7 Trails (all fragmented, none used or maintained)
- 1 Mining site along middle Elk River area

SIGNIFICANCE

None of the historic sites are eligible for the National Register of Historic Places (NRHP). The prehistoric site has not been excavated or analyzed. It has not been nominated for the NRHP nor is it anticipated to be.

It doesn't seem to be a significant site.

We do not anticipate finding any significant cultural resource sites in the Siskiyou National Forest part of the Elk River watershed. No standing historic structures exist on National Forest land in the Elk River area.

TRIBAL RIGHTS - CURRENT USE

The Quatomah Indians are not a recognized tribe. It is unknown if there are any survivors of the group. The area is not used by American Indian groups for any tribal or group purposes.

Community concern for cultural resource values in Elk River has been low. It has not been raised as an issue by the public in any timber sale Environmental Assessment scoping process.

No law enforcement problems related to cultural resources have occurred yet and none are anticipated.

Joe Hallett Cultural Resource Coordinator Powers Ranger District Siskiyou National Forest

Appendix M: Index of Relevant Information, including Maps

At the request of the Siskiyou National Forest in the mid-1980's, researchers from Oregon State University (OSU) and the U.S. Forest Service Pacific Northwest Research Station (PNW) initiated a series of studies on erosion processes, channel form, water temperature, and fish populations. Concurrent with these studies, juvenile fish traps were installed and operated by ODFW to estimate wild anadromous salmonid production in various portions of the basin.

Interviews with local residents
Woodward Oral History - Draft Transcript

Geologic mapping from Curry County upgraded by McHugh, 1987. Polygons available on GIS layer GE3 (Powers RD).

Watershed Sensitivity Mapping by Cindy Ricks - on 1986 aerial photos (Westside Engineering Zone), transferred to GIS layer WS3 (Powers RD).

Landslide maps by McHugh - Hardcopies only (Westside Engineering Zone). Historic landslide inventory on Lotus spreadsheets (Westside Engineering Zone).

Road construction and timber harvest history - Lotus spreadsheets (Westside Engineering Zone), GIS layers (Powers RD).

Streamflow data: Elk River mainstem at Hatchery 1977-1988, and Milbury Creek 1989-1990.

Elk River North and South Forks stream flow - average monthly.

Summer Stream Temperature Monitoring data 1990-1991

Maps of Fish Species Distribution, Significant Fish Habitat Areas, and Productive Stream Reaches (Powers RD).

Chen, Glenn, Elk River Basin Stream Surveys 1986-1990 in Lotus and QuattroPro format. 1984 general stream survey data. Field Data sheets and Observation notebooks for 1986-1991 (PNW Research Station, Corvallis Lab).